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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,800	01/10/2002	Franck Beaucoup	8398-20	8339

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EXAMINER

HARPER, V PAUL

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/044,800

Applicant(s)

BEAUCOUP ET AL.

Examiner

V. Paul Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7, 9, 13, 15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7, 9, 13, 15 and 17 is/are allowed.
- 6) ☒ Claim(s) 1 and 4 is/are rejected.
- 7) ☒ Claim(s) 2, 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akira et al. (Japanese Patent Application Publication JP 2000305579), hereinafter referred to as Akira, in view of Cesaro et al. (U.S. Patent 5,533,118), hereinafter referred to as Cesaro.

Regarding **claim 1**, Akira discloses a speech detecting device which includes the following:

- [a] noise characteristic estimation of a first of two bidirectionally transmitted signals (Fig. 1, transmission side from microphone [first signal], item 10, reception side to the loud speaker item 11, P<sub>n</sub> background-noise power of the signal from the microphone, ¶[0012]), the improvement comprising
  - detecting at least one of voice activity . . . activity in a signal transmitted in a first direction opposite to said first signal and in response ceasing said noise characteristic

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estimation (Fig. 1, ¶[0012], VS turns off the Pn circuit if received signal [first direction] is in a talk state—i.e., voice activity is present on the received line).

But Akira does not specifically teach “detecting at least one of voice activity and in-band tone activity in a signal.” However, the examiner contends that this concept was well known in the art, as taught by Cesaro.

In the same field of endeavor, Cesaro discloses a voice activity detection method that is responsive to both voice and tones (abstract, col. 2, lines 45-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Akira by specifically providing the features, as taught by Cesaro, because it is well known in the art at the time of invention for the purpose of simply and effectively detecting both voice and tones on a telephone line (Cesaro, col. 1, lines 14-19, lines 64-68; col. 2, lines 45-50).

Regarding **claim 4**, Akira in view of Cesaro teaches everything claimed, as applied above (see claim 1). In addition, Akira teaches “said noise characteristic is noise level” (¶[0008], Fig. 1, item 2 background-noise power).

### ***Allowable Subject Matter***

2. Claims 2 and 3 are objected to.

Regarding **claim 2**, it is noted that the closest prior art of record, Akira teaches the disabling of a noise determining circuit on a transmission line when a talk state is determined on a reception line, but Akira does not teach detecting at least one of voice

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activity and in-band tone activity in a signal transmitted in a first direction opposite to said first signal and in response ceasing said noise characteristic estimation; and detecting at least one of voice activity and in-band tone activity in said first signal and in response ceasing said noise characteristic estimation in a direction of said first signal. Thus claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. Claims 7, 9, 13, 15, and 17 are allowed.

Regarding **claim 7**, it is noted that the closest prior art of record, Akira teaches the disabling of a noise determining circuit on a transmission line when a talk state is determined on a reception line, but Akira does not teach the use of two voice activity detectors for detecting at least one of voice activity and in-band tone activity in a signal transmitted through said conferencing system in directions opposite to said bidirectionally transmitted signals and in response disabling the opposing noise characteristic estimator. Thus, independent claim 7 is allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

Regarding **claim 13**, it is noted that the closest prior art of record, Akira teaches the disabling of a noise determining circuit on a transmission line when a talk state is determined on a reception line, but Akira does not teach the use of at least two noise

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level estimators, one of said noise level estimators for estimating noise level in said line-in audio signal and the other of said noise level estimators for estimating noise level in said line-out audio signal; and at least two voice activity detectors, one of said voice activity detectors for detecting voice activity in said line-in audio signal and in response disabling said other of said noise level estimators, and the other of said voice activity detectors for detecting voice activity in said line-out audio signal and in response disabling said one of said noise level estimators. Thus, independent claim 13 is allowable over the prior art of record because the cited prior art alone or in combination, does not fairly suggest or disclose the claimed combination of features.

### ***Response to Arguments***

4. Applicant's arguments (filed 11/14/05) relating to the rejection of claim 1 have been fully considered but are not persuasive.

5. Applicant asserts on page 7 (regarding the rejection of claim 1):

By way of contrast, the Akira reference teaches calculation of acoustic coupling gain between microphone 10 and speaker 11 using a voice switch VS to provide a control signal Vs to the switch 4. Consequently, rather than detecting audio activity in a direction opposite to the signal of interest, as defined by amended claim 1, *noise power estimation block 2 of the Akira reference is disabled based on acoustic coupling gain, which is a completely different control characteristic.* Thus, there is no teaching or suggestion of noise characteristic estimation of a first of two bidirectionally transmitted signals, detecting at least one of voice activity and in-band tone activity in a signal transmitted in a first direction opposite to said first signal and in response ceasing said noise characteristic estimation. (Italics added)

Akira teaches that when the received signal is in that "talk state," the background determining device (Fig. 1, item 2, which estimates the noise on the transmission side) is turned off ([0012], item 4), where the control section (item 14) judges the talk state by observing the transmission and reception of talk signals ([0007]). Thus, the examiner maintains that this corresponds to "detecting at least one voice activity [talk state] ...in a signal transmitted in a first direction opposite to said first signal and in response ceasing said noise characteristic estimation [i.e., background determining device is turned off]."

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Paul Harper whose telephone number is (571) 272-7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/16/2005

V. Paul Harper  
Patent Examiner  
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A handwritten signature in cursive script that reads "V. Paul Harper". The signature is written in dark ink and is positioned to the right of the typed name and title.